Intel Massachusetts, Inc. - Hudson, MA

Fab 17 Semiconductor Manufacturing Facility

Industrial Pre-Treatment Wastewater Systems and Discharges

Intel Massachusetts, Inc. Semiconductor Manufacturing Facility (Fab 17) discharges pretreated industrial wastewater to the Hudson Publicly Owned Treatment Works (POTW). The Fab 17 effluent consists of several wastewater streams, of which the two principal sources are sanitary and manufacturing process aqueous wastewaters.

Sanitary wastewater flows are directed to the Town of Hudson POTW untreated. The following Process Flow Diagrams detail the five (5) pretreatment systems for process wastewaters pretreated on the Intel site prior to discharge to the Hudson POTW.

The wastewater pretreatment systems for these identified streams are:

1. HD-1 Acid Waste Neutralization System (AWN)
2. HD-3 (CUB) Acid Waste Neutralization System (AWN)
3. HD-3 (CUB) Fluoride Wastewater Treatment System (HFW)
4. HD-3 (CUB) Slurry Copper Waste Treatment System (SCW)
5. HD-1 Dilute Lead Waste Treatment System (DLW)

The AWN systems adjust pH with addition of hydrochloric acid (HCl), sulfuric acid (H_2SO_4), and sodium hydroxide (NaOH). Wastewaters with low concentrations of hydrogen fluoride or other fluoride compounds are treated in the HFW system by hydroxide precipitation using a lime solution (CaOH). Low concentrations of dilute lead (Pb) and copper (Cu) waste rinse solutions are each treated by ion exchange in the DLW and SCW pretreatment systems respectively.